

ALG. 2 Part 4

42. $m \cdot m = m^2$

43. $y^a \cdot y = y^{10}$
 $y^a \cdot y^1 = y^{a+1}$

$$44. (-3k^8)(-2k^4)(-5k^3)$$

$$(-3) \cdot (-2) \cdot (-5) = -30$$

$$k^{8+2+3} = k^{13}$$

$$-30k^{13}$$

45.

$$(w^3)^4 = w^{12}$$

$$w^3 \cdot w^4 = w^{3+4} = w^7$$

$$46. \quad - \frac{e^4 \cdot f^7 g^5}{e' f' g'} =$$

$$= - e^{4-1} f^{7-1} g^{5-1} =$$

$$= - e^3 f^6 g^4$$

$$47. \textcircled{A} 6^{-3} \cdot 6^0 = 6^{-3+0} = 6^{-3} = \frac{1}{6^3} = \frac{1}{216}$$

$$\textcircled{B} 6^0 = 1$$

$$6^{-3} \cdot 1 = 6^{-3} = \frac{1}{6^3} = \frac{1}{216}$$

$$48. X^0 \cdot X^{-9} = X^{0+(-9)} = X^{-9} = \frac{1}{X^9}$$

$$49. \quad (-x^2 - 2x + 1) + (4x^2 - 2)$$

$$\underline{-x^2} - \underline{\underline{2x}} + \underline{\underline{1}} + \underline{4x^2} - \underline{\underline{2}}$$

$$3x^2 - 2x - 1$$

50. $(3x-8)(4x+3)$

F $3x \cdot 4x = 12x^2$

O $3x \cdot 3 = \underline{9x}$

I $-8 \cdot 4x = \underline{-32x}$

L $-8 \cdot 3 = -24$

$9x - 32x =$
 $= -23x$

$$12x^2 - 23x - 24$$

$$51 \quad (2x^2 - 7)(x^2 + 9)$$

$$F \quad 2x^2 \cdot x^2 = 2x^4$$

$$O \quad 2x^2 \cdot 9 = \underline{18x^2}$$

$$18x^2 - 7x^2 = 11x^2$$

$$I \quad \underline{-7 \cdot x^2}$$

$$L \quad -7 \cdot 9 = -63$$

$$2x^4 + 11x^2 - 63$$

$$\begin{aligned}
 52 \quad m^2 - \underline{4}m + \underline{4} &= (m - \underline{2})(m - \underline{2}) = \\
 & \quad (\underline{-2})(\underline{-2}) = \underline{4} \quad = (m - 2)^2 \\
 & \quad -2 + -2 = \underline{-4}
 \end{aligned}$$

$$\begin{aligned}
 53 \quad x^2 - 100 &= (x - 10)(x + 10) \\
 a^2 - b^2 &= (a - b)(a + b)
 \end{aligned}$$

$$\begin{aligned}
 a^2 &= x^2 & b^2 &= 100 \\
 \sqrt{a^2} &= a & \sqrt{b^2} &= b \\
 \sqrt{x^2} &= x & \sqrt{100} &= 10
 \end{aligned}$$

54.

$$x^2 + 16x + 63 = 0$$

$$x^2 + 16x + 63 = (x+7)(x+9)$$

$$9 \cdot 7 = 63$$

$$9 + 7 = 16$$

$$(x+7)(x+9) = 0$$

$$\begin{array}{l} x+7=0 \\ -7 \quad -7 \\ x=-7 \end{array}$$

$$\begin{array}{l} x+9=0 \\ -9 \quad -9 \end{array}$$

$$x = -9$$

$$55. \quad x^2 - 19x + 88 = 0$$

$$(-8) \cdot (-11) = 88$$

$$-8 + -11 = -19$$

$$x^2 - 19x + 88 = (x - 8)(x - 11)$$

$$(x - 8)(x - 11) = 0$$

$$\begin{array}{rcl} x - 8 & = & 0 \\ + 8 & + & 8 \end{array}$$

$$x = 8$$

$$\begin{array}{rcl} x - 11 & = & 0 \\ + 11 & + & 11 \end{array}$$

$$x = 11$$

$$56. \quad y = x^2 - 7x - 8$$

$$x^2 - 7x - 8 = (x - 8)(x + 1)$$

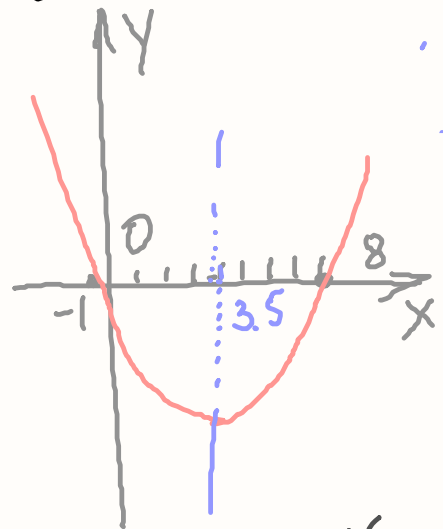
$$(-8) \cdot 1 = -8$$

$$-8 + 1 = -7$$

$$(x - 8)(x + 1) = 0$$

$$\begin{array}{r} x - 8 = 0 \\ + 8 \quad + 8 \\ \hline x = 8 \end{array}$$

$$\begin{array}{r} x + 1 = 0 \\ - 1 \quad - 1 \\ \hline x = -1 \end{array}$$



$$\begin{aligned} X_{\text{AXIS}} &= \frac{x_1 + x_2}{2} \\ &= \frac{8 + (-1)}{2} = \frac{7}{2} = 3.5 \end{aligned}$$